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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,992

03/23/2004

David S. Fredley

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11/20/2006

MOTOROLA, INC
INTELLECTUAL PROPERTY SECTION
LAW DEPT
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EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,992

Applicant(s)

FREDLEY ET AL.

Examiner

Jerry Martin Blevins

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-4, 6-14, and 16-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 9-11, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2005/0231654 to Hikspoors et al in view of US 2004/0165860 to Wang et al.

Regarding claims 1, 4, 6, 11, 14, 17, and 18, Hikspoors teaches a (method of increasing the efficiency of a) light guide system (Figure 1), comprising: (providing) a light conduit (30) having non-luminescent light directing portions that direct light to a display structure (36) in a non-random manner; and (coating the light conduit with) a conformal reflective material (33) coated to the light conduit without a boundary between the light conduit and the reflective material. Hikspoors also teaches an opening (32) that receives light from a light source (1). Hikspoors does not teach that the reflective material is coated on a sidewall of the light conduit that is substantially

Art Unit: 2883

perpendicular to another portion of the conduit that includes the opening and that light is directed to the display at an angle of substantially ninety degrees. Wang teaches that a reflective material is coated on a sidewall of a light conduit that is substantially perpendicular to another portion of the conduit that includes an opening that receives light from a light source and that light is directed to a display structure at an angle of substantially ninety degrees (Figure 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light guide of Hikspoors to include the teachings of Wang. The motivation would have been to brighten the display (Wang, paragraph 50).

Regarding claim 9, Hikspoors also teaches that the light conduit is part of an electronic device (projector 3).

Regarding claims 10 and 16, Hikspoors also teaches that the light conduit includes a substantially planar surface (31) at which the reflective material is coated.

Claims 2, 3, 7, 12, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikspoors in view of Wang, as applied to claims 1, 11, and 17 above, and further in view of US Patent to Herron et al., number 5,919,712.

Regarding claims 2, 3 and 12, 13, Hikspoors in view of Wang renders obvious the limitations of the base claims 1 and 11, respectively. Hikspoors does not teach that the reflective material defines a border of a volume through which light can travel and that the index of refraction of the volume is substantially constant and is the index of refraction of the light conduit. Herron teaches a reflective material (column 10, lines

Art Unit: 2883

17,18) coated to a light conduit (Figure 3C, element 302) which defines a border of volume (the waveguide) through which light can travel (column 10, lines 25,26) and that the index of the volume is substantially constant (column 9, lines 65-67 teach that the waveguide has a substantially constant index of refraction from about 1.46 to 1.52) and that the index of volume is the index of refraction of the light conduit (since column 10, lines 25,26 teach that the volume through which the light can travel is the conduit). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hikspoors with the reflective material of Herron. The motivation would have been to reduce scattering of light.

Regarding claims 7 and 20, Hikspoors in view of Wang renders obvious the limitations of the base claims 1 and 17, respectively. Hikspoors does not teach that the (coating includes applying) reflective material includes at least one of tin, nickel, copper, zinc, aluminum, silver, gold, chromium, and an alloy and a composite thereof. Herron teaches that the reflective coating materials include aluminum or silver (column 10, lines 29,30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hikspoors with the reflective material of Herron. The motivation would have been to increase the reflectance.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hikspoors in view of Wang, as applied to claim 1 above, and further in view of US Pre Grant Publication to Hetzer, number 2001/0041041.

Regarding claim 8, Hikspoons in view of Wang renders obvious the limitations of the base claim 1. Hikspoons does not teach that the light conduit is a transparent member. Hetzer teaches waveguide elements (Figure 3, elements 9 and 10) which are transparent members (page 2, paragraph 22 and page 3 paragraph 47). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the transparent waveguide of Hetzer as the waveguide of Hikspoons. The motivation would have been to localize and concentrate the light through the waveguide (Hetzer, page 2, paragraph 22).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hikspoons in view of Wang, as applied to claim 17 above, and further in view of US Pre Grant Publication to Kragl, number 20040008952.

Regarding claim 19, Hikspoons renders obvious the limitations of the base claim 17. Hikspoons does not teach that the coating step includes spraying reflective material. Kragl teaches a method of coating an optical waveguide with reflective silver coating using a spraying technique (page 8, paragraph 87). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the step of coating of Hikspoons the technique of spraying reflective material as taught by Kragl. The motivation would have been to perform the coating in a simple, economic, well-known method (Kragl, page 8, paragraph 87).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JMB

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